

SEQUENCE LISTING

<110> STEINBUCHER, Alexander
LIEBERGESELL, Matthias
VALENTIN, Henry
PRIES, Andreas

<120> Process For Manufacturing Polyhydroxylic Fatty Acids, And Recombinant Bacterial Strains For Carrying Out The Process

<130> MOBT:152-2 - 11899.0152.DVUS01

<150> US 09/420,119

<151> 1999-10-18

<150> US 08/809,286

<151> 1997-07-03

<150> WO 96/08566

<151> 1995-09-15

<160> 3

<170> PatentIn version 3.0

<210> 1

<211> 2849

<212> DNA

<213> *Thiocapsa pfennigii*

<400> 1

```

ggatcctggt cgcgagcgcg ccgcccagcc acctgccggc gcgccccgcc gggaccgctc      60
gaggacgcct cgcgaaggct ctaggggctg tatcttcaag agtctacgcc cctttgttgc      120
agtgacacaaa tttccgtgct agcttcatgc tatcacgccc cagacgagga agattcaccg      180
tgaacgatac ggccaacaag accagcgact ggctggacat ccaacgcaag tactgggaga      240
cctggtcgga gctcggccgc aagaccttgg gtctggagaa gaccccggcc aatccttggg      300
ccggcgccct cgatcattgg tggcagacgg tctcgccgcg cgcgcccaac gacctggttc      360
gcgacttcat ggagaagctc gccgagcagg gcaaggcctt cttcggcctc accgactact      420
tcacgaaggg cctcggcggc agtagcggta cgcagggctg ggacaccctc tcgaagacca      480
tcgacgacat gcaaaaggcc ttcgccagcg gccggatcga aggcgacgag accttccgcc      540
gcctgatggc cttctgggag atgccgctcg acaactggca gcgcaccatg tctcgtctgt      600
ccccggtgcc eggcgacctg ctgcgcaaca tgccgcacga ccaagtcagg gacagcgctc      660
accgcatect ctcggcaccc gggctcggct acacgcgcga ggagcaggcc cgctaccagg      720
atctgatccg ccgctcgtg gagtaccagt cggccctgaa cgaatacaac ggcttcttcg      780
gccagctcgg tgtcaagtcc ctcgagcgga tgccgcgcctt cctgcaggga caggccgaga      840

```

agggcgctgc	catcgagtcg	gcgcgcaccc	tctacgacgc	ctgggtcggc	tgctgcgaag	900
aggtctatgc	cgaggaggtc	agctccgccg	actacgcgca	catccacggc	cgctctgtca	960
acgcccagat	ggccctcaag	cagcgcatgt	cgaccatggt	cgacgaggtc	ctcggcgcgga	1020
tgccgctgcc	gacccgcagc	gagctgcgca	cgctccagga	tcggctccag	gagtcgcgcg	1080
gcgagggcaa	gcgccagcgc	caagagatcg	agacgctgaa	gcggcaggtc	gcggccttgg	1140
ccggcggcgc	ccagcccgcg	ccccaggcct	ccgcccagcc	cagcaccggg	cccgcgccgg	1200
cgacggcccc	ggcggcgagc	gcggcgccca	agcgcagcac	cacgaccggc	cgcaagacca	1260
ccaagcccac	caccggccag	tgatgtcggc	cgcccgtcca	tcgccaccag	gagagagtgc	1320
cgtgtcccca	ttcccgatcg	acatccggcc	cgacaagctg	accgaggaga	tgctggagta	1380
cagccgcaag	ctcggcgagg	gtatgcagaa	cctgctcaag	gccgaccaga	tcgacacagg	1440
cgtcaccccc	aaggacgtcg	tccaccgcga	ggacaagctg	gtcctctacc	gctaccggcg	1500
cccggcgcgag	gtggcgaccc	agacgatccc	gctgctgac	gtctacgccc	tcgtcaatcg	1560
gccctacatg	accgacatcc	aggaggatcg	ctcgacgac	aagggcctgc	tcgccaccgg	1620
tcaggacgtc	tatctgatcg	actggggcta	cccggatcag	gccgaccggg	cgctgaccct	1680
cgatgactac	atcaacggct	acatcgaccg	ctgcgtcgac	tacctgcgcg	agaccacagg	1740
cgtcgaccag	gtcaacctgc	tcgggatctg	ccagggcggg	gccttcagcc	tctgctacac	1800
ggccctgcac	tccgagaagg	tcaaaaacct	cgtcaccatg	gtcacgcggg	tcgacttcca	1860
gaccccgggc	aacctgctct	cggcctgggt	ccagaacgtc	gacgtcgacc	tgggcgctga	1920
caccatgggc	aacatcccgg	gcgaactgct	caactggacc	ttcctgtcgc	tcaagccctt	1980
cagcctgacc	ggccagaagt	acgtcaacat	ggtcgacctg	ctcgacgacg	aggacaaggt	2040
caagaacttc	ctgcggatgg	agaagtggat	cttcgacagc	ccggaccagg	ccggcgagac	2100
cttcgcgcag	ttcatcaagg	acttctacca	gcgcaacggc	ttcatcaacg	gcggcgctct	2160
gatcggcgat	caggaggtcg	acctgcgcaa	catccgctgc	ccggtcctga	acatctaccc	2220
gatgcaggac	cacctggtgc	cgccggatgc	ctccaaggcc	ctcgcgggac	tgacctccag	2280
cgaggactac	acggagctcg	ccttccccgg	cgggcacatc	ggcatctacg	tcagcggcaa	2340
ggcgcaggaa	ggagtcaccc	cggcgatcgg	ccgctggctg	aacgaacgcg	gctgagccgg	2400
gtcgaccac	ccgctcgacg	ggcgcggccg	gcggcatcga	aggccgcccgg	ccggcgccca	2460
tgagccatcc	gcgccgctgg	cgcccgcccc	ccgaccttcg	ccgcgcgacc	cgcacgcccc	2520
ccgcggctgg	cgtacaatga	cggctcttcg	gagcgagccc	cgcacgtcga	acggaggctg	2580
catgggcgcc	gaccaccaac	tgctggccgc	gtacgacgcg	ctggccgaga	cctacgacgc	2640

ccaccgcggc ctcttcgaca tgcgcgccgt gctcaggagac atcttcgccc gcctgccggc 2700
 ctgcggcacc ctcttcgacc tcggctgcgg cgccggggag ccgtgcgcgc gcgccttcct 2760
 cgaccgcggc tggcgggtga ccgggggtgga cttctgcccgc gccatgctcg ccctgcgggc 2820
 gcgctacgtc cccgagatgg agcggatcc 2849

<210> 2
 <211> 367
 <212> PRT
 <213> Thiocapsa pfennigii

<400> 2

Val	Asn	Asp	Thr	Ala	Asn	Lys	Thr	Ser	Asp	Trp	Leu	Asp	Ile	Gln	Arg	1	5	10	15
Lys	Tyr	Trp	Glu	Thr	Trp	Ser	Glu	Leu	Gly	Arg	Lys	Thr	Leu	Gly	Leu	20	25	30	
Glu	Lys	Thr	Pro	Ala	Asn	Pro	Trp	Ala	Gly	Ala	Leu	Asp	His	Trp	Trp	35	40	45	
Gln	Thr	Val	Ser	Pro	Ala	Ala	Pro	Asn	Asp	Leu	Val	Arg	Asp	Phe	Met	50	55	60	
Glu	Lys	Leu	Ala	Glu	Gln	Gly	Lys	Ala	Phe	Phe	Gly	Leu	Thr	Asp	Tyr	65	70	75	80
Phe	Thr	Lys	Gly	Leu	Gly	Gly	Ser	Ser	Gly	Thr	Gln	Gly	Trp	Asp	Thr	85	90	95	
Leu	Ser	Lys	Thr	Ile	Asp	Asp	Met	Gln	Lys	Ala	Phe	Ala	Ser	Gly	Arg	100	105	110	
Ile	Glu	Gly	Asp	Glu	Thr	Phe	Arg	Arg	Leu	Met	Ala	Phe	Trp	Glu	Met	115	120	125	
Pro	Leu	Asp	Asn	Trp	Gln	Arg	Thr	Met	Ser	Ser	Leu	Ser	Pro	Val	Pro	130	135	140	
Gly	Asp	Leu	Leu	Arg	Asn	Met	Pro	His	Asp	Gln	Val	Arg	Asp	Ser	Val	145	150	155	160
Asp	Arg	Ile	Leu	Ser	Ala	Pro	Gly	Leu	Gly	Tyr	Thr	Arg	Glu	Glu	Gln	165	170	175	
Ala	Arg	Tyr	Gln	Asp	Leu	Ile	Arg	Arg	Ser	Leu	Glu	Tyr	Gln	Ser	Ala	180	185	190	
Leu	Asn	Glu	Tyr	Asn	Gly	Phe	Phe	Gly	Gln	Leu	Gly	Val	Lys	Ser	Leu	195	200	205	
Glu	Arg	Met	Arg	Ala	Phe	Leu	Gln	Gly	Gln	Ala	Glu	Lys	Gly	Val	Ala	210	215	220	

Ile Glu Ser Ala Arg Thr Leu Tyr Asp Ala Trp Val Gly Cys Cys Glu
 225 230 235 240
 Glu Val Tyr Ala Glu Glu Val Ser Ser Ala Asp Tyr Ala His Ile His
 245 250 255
 Gly Arg Leu Val Asn Ala Gln Met Ala Leu Lys Gln Arg Met Ser Thr
 260 265 270
 Met Val Asp Glu Val Leu Gly Ala Met Pro Leu Pro Thr Arg Ser Glu
 275 280 285
 Leu Arg Thr Leu Gln Asp Arg Leu Gln Glu Ser Arg Gly Glu Gly Lys
 290 295 300
 Arg Gln Arg Gln Glu Ile Glu Thr Leu Lys Arg Gln Val Ala Ala Leu
 305 310 315 320
 Ala Gly Gly Ala Gln Pro Ala Pro Gln Ala Ser Ala Gln Pro Ser Thr
 325 330 335
 Arg Pro Ala Pro Ala Thr Ala Pro Ala Ala Ser Ala Ala Pro Lys Arg
 340 345 350
 Ser Thr Thr Thr Arg Arg Lys Thr Thr Lys Pro Thr Thr Gly Gln
 355 360 365
 <210> 3
 <211> 357
 <212> PRT
 <213> *Thiocapsa pfennigii*
 <400> 3
 Val Ser Pro Phe Pro Ile Asp Ile Arg Pro Asp Lys Leu Thr Glu Glu
 1 5 10 15
 Met Leu Glu Tyr Ser Arg Lys Leu Gly Glu Gly Met Gln Asn Leu Leu
 20 25 30
 Lys Ala Asp Gln Ile Asp Thr Gly Val Thr Pro Lys Asp Val Val His
 35 40 45
 Arg Glu Asp Lys Leu Val Leu Tyr Arg Tyr Arg Arg Pro Ala Gln Val
 50 55 60
 Ala Thr Gln Thr Ile Pro Leu Leu Ile Val Tyr Ala Leu Val Asn Arg
 65 70 75 80
 Pro Tyr Met Thr Asp Ile Gln Glu Asp Arg Ser Thr Ile Lys Gly Leu
 85 90 95
 Leu Ala Thr Gly Gln Asp Val Tyr Leu Ile Asp Trp Gly Tyr Pro Asp
 100 105 110
 Gln Ala Asp Arg Ala Leu Thr Leu Asp Asp Tyr Ile Asn Gly Tyr Ile
 115 120 125
 Asp Arg Cys Val Asp Tyr Leu Arg Glu Thr His Gly Val Asp Gln Val

130	135	140
Asn Leu Leu Gly Ile Cys Gln Gly Gly Ala Phe Ser Leu Cys Tyr Thr 145 150 155 160		
Ala Leu His Ser Glu Lys Val Lys Asn Leu Val Thr Met Val Thr Pro 165 170 175		
Val Asp Phe Gln Thr Pro Gly Asn Leu Leu Ser Ala Trp Val Gln Asn 180 185 190		
Val Asp Val Asp Leu Ala Val Asp Thr Met Gly Asn Ile Pro Gly Glu 195 200 205		
Leu Leu Asn Trp Thr Phe Leu Ser Leu Lys Pro Phe Ser Leu Thr Gly 210 215 220		
Gln Lys Tyr Val Asn Met Val Asp Leu Leu Asp Asp Glu Asp Lys Val 225 230 235 240		
Lys Asn Phe Leu Arg Met Glu Lys Trp Ile Phe Asp Ser Pro Asp Gln 245 250 255		
Ala Gly Glu Thr Phe Arg Gln Phe Ile Lys Asp Phe Tyr Gln Arg Asn 260 265 270		
Gly Phe Ile Asn Gly Gly Val Leu Ile Gly Asp Gln Glu Val Asp Leu 275 280 285		
Arg Asn Ile Arg Cys Pro Val Leu Asn Ile Tyr Pro Met Gln Asp His 290 295 300		
Leu Val Pro Pro Asp Ala Ser Lys Ala Leu Ala Gly Leu Thr Ser Ser 305 310 315 320		
Glu Asp Tyr Thr Glu Leu Ala Phe Pro Gly Gly His Ile Gly Ile Tyr 325 330 335		
Val Ser Gly Lys Ala Gln Glu Gly Val Thr Pro Ala Ile Gly Arg Trp 340 345 350		
Leu Asn Glu Arg Gly 355		

APPLICATION FOR UNITED STATES LETTERS PATENT

for

PROCESS FOR THE PRODUCTION OF POLY(HYDROXY FATTY ACIDS) AS
WELL AS RECOMBINANT BACTERIAL STRAINS FOR CARRYING OUT
THE PROCESS

by

Alexander Steinbüchel

Matthias Liebergesell

Henry Valentin and

Andreas Pries